

Great Lakes Water Authority

Investment Performance Report – December 2019



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PORTFOLIO RECAP

- **Safety** – The overall portfolio is diversified amongst cash, bank deposits, U.S. Treasuries, Federal Agencies, commercial paper, SEC-registered money market funds, and a local government investment pool. The total credit profile of the portfolio is strong with over 97% of the assets invested in bank deposits or securities that are rated within the two highest short and long-term rating classifications as established by S&P.
- **Liquidity** – Great Lakes Water Authority (“GLWA”) has continued to monitor its portfolio with the goal of limiting the allocation to cash and bank deposit accounts and maximizing the use of short-term investments to meet liquidity requirements. As of December 31, 2019, 42% of the funds were held in cash and money market accounts maturing overnight.
- **Return** – The overall yield decreased to 1.56% as of December 31, 2019 versus 1.81% as of September 30, 2019. The lower yield is a result of the declining interest rate environment. GLWA earned \$10.5 million (unaudited) in investment income for fiscal year 2020 to date on a book value basis. Based on current market assumptions, the income earned for the previous quarter, and assuming GLWA maintains the same investable balances for the remainder of the fiscal year, we are projecting investment income of approximately \$17.4 million in earnings for fiscal year 2020.

AVAILABLE FUNDS (Unaudited)

Type	Financial Institution	Book Value	Market Value	YTM @ Market (as of 12/31/19)
Deposit Account	Comerica	\$6,967,049	\$6,967,049	0.18%
Deposit Account - Retainage	First Independence	\$17,707,106	\$17,707,106	0.05%
Deposit Account – Flint Security Deposit	Chase	\$3,807,070	\$3,807,070	0.80%
Deposit Account	Chase	\$17,934,869	\$17,934,869	0.80%
Trust Money Market Fund	U.S. Bank	\$274,955,438	\$274,955,438	1.48%
Money Market Fund	JP Morgan	\$45,610,727	\$45,610,727	1.52%
Local Government Investment Pool	GovMIC	\$95,088,997	\$95,088,997	1.75%
Managed Funds	PFM	\$622,653,871	\$625,363,980	1.66%
<u>TOTAL</u>		<u>\$1,084,725,127</u>	<u>\$1,087,435,236</u>	<u>1.56%</u>

The accounts at Comerica Bank get an earnings credit to offset bank fees. The funds and earnings in the Retainage account are held on behalf of the contractors and do not belong to GLWA. The funds and earnings in the Flint Security Deposit account are held on behalf of the City of Flint and do not belong to GLWA. In addition to the above, there also exists surety bonds in the amount of \$324,309,258 as of 12/31/2019.

Investment Strategy

GLWA INVESTMENT STRATEGY

- The portfolio is in compliance with GLWA’s investment policy and Michigan Public Act 20.
- To date, GLWA has continued to invest its funds in a mixture of short and intermediate-term investments to ensure adequate liquidity to cover debt and pension payments.
- The aggregate portfolio was yielding 1.56% at the end of December.*
 - This compares to the 1.51% yield of the Bank of America / Merrill Lynch 3-Month U.S. Treasury Bill Index as of 12/31/2019, which is a comparable market indicator.
- GLWA continues to implement a disciplined investment plan to provide improved safety and diversification and putting every dollar to work.
- For the third quarter of fiscal year 2020, PFM Asset Management LLC (“PFM”), GLWA’s investment advisor, will continue to actively manage long-term portfolios with full discretion and align short-term balances with expected liabilities, subject to GLWA’s investment policy.
- GLWA will continue to work with PFM to identify strategies in the current interest rate environment to maximize future investment income while meeting the objectives of safety and liquidity.
- Assuming GLWA maintains similar investable balances and interest rates remain within the market projected range, we expect to earn approximately \$17.4 million in interest income for fiscal year 2020.

* Current market yield as of December 31, 2019.

Summary Market Overview and Outlook

ECONOMIC HIGHLIGHTS UPDATE

- As investors set sail into the new decade, we reflect on the remarkable decade now behind us. The 2010's overcame upheavals in the geopolitical order, credit and oil shocks, and sovereign meltdowns. Despite these volatile winds, equities had an epic bull market run. Fixed-income bonds also had a bull market run, and the U.S. dollar reigned supreme, enjoying its unique privilege amid unprecedented monetary expansion by major central banks.
- After three consecutive rate cuts, the Federal Reserve kept rates steady at its December meeting, maintaining the Fed Funds target rate at a range of 1.50% to 1.75%. It signaled a view that the economy is solid, and the current policy stance will remain appropriate as long as "incoming data remains broadly consistent with the outlook." Many market strategists and participants expect the Fed to remain on hold for an extended period and to maintain this rate range for the foreseeable future unless new economic developments dictate otherwise as we head into an election year.

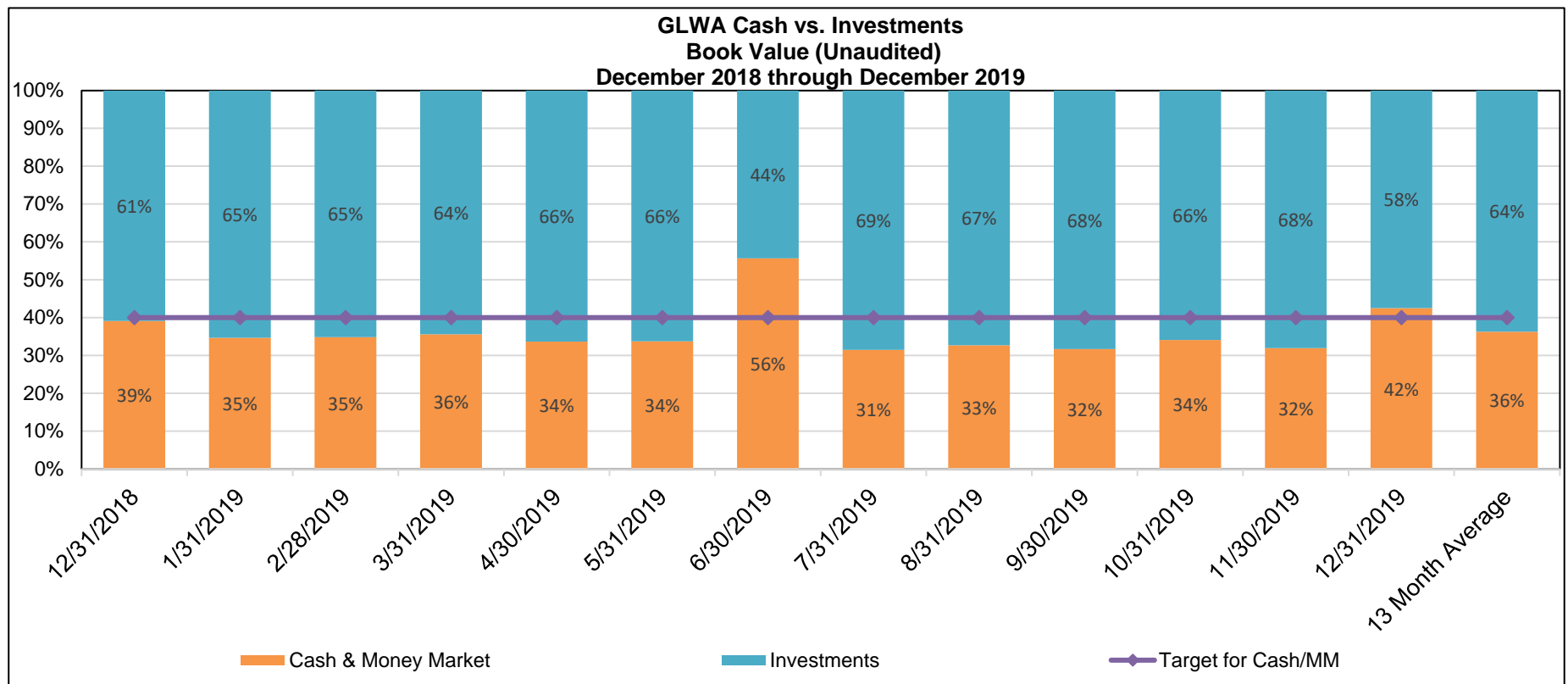
ECONOMIC IMPACT ON PORTFOLIO

- The U.S. Treasury yield curve steepened during December. Ultra-short (less than three months) Treasury yields fell by 15 basis points as the front end of the curve sought equilibrium with the Fed Funds target rate. Yields on maturities between three months and five years were generally flat (plus or minus five basis points), while yields on longer-term Treasuries (greater than seven years) increased by 10 to 20 basis points.
- Buoyed by stable credit fundamentals, accommodative central banks, and modest new supply, credit sectors (i.e., commercial paper) once again generated strong incremental performance. By month-end, high-quality credit spreads had reached historically tight levels, making valuations appear rich.
- Following the Fed's three 2019 "rate adjustment" cuts, and with the economy expanding modestly, we expect interest rates to remain within a tight trading range over the near-term. As a result, we plan to maintain duration neutral positions.
- Shorter-term investors (less than one year) may continue to benefit from widened yield spreads on commercial paper and a return to a more normal, upward sloping yield curve. After the strong bond market returns of calendar year 2019, we expect results in virtually all sectors to be lower this year.

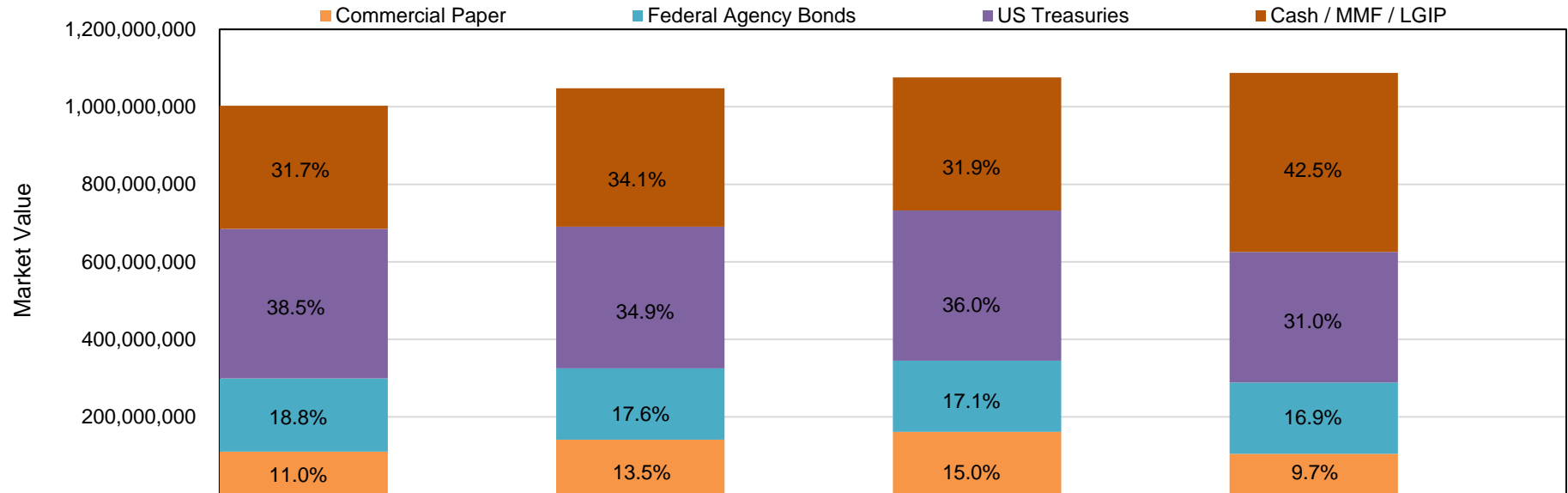
Portfolio Mix

Cash / Money Market vs. Investments

- GLWA’s liquidity requirements fluctuate each month based on operational requirements, capital funding, and debt payments. Based on a review of historical activity and refinement of cash flow projections, GLWA has set a target ratio of 40% cash & money market accounts and 60% investments for the portfolio holdings. The 13-month average at the end of December of 2019 was ahead of the target.
- The chart below compares the monthly allocation of the portfolio holdings to the 13-month average and the target. The allocation between cash and investments will vary each month based on liquidity requirements. For December 2019, 42% of the portfolio was invested in cash & money market accounts. This percentage is higher than September due to liquidity needed for January 1st debt payments.



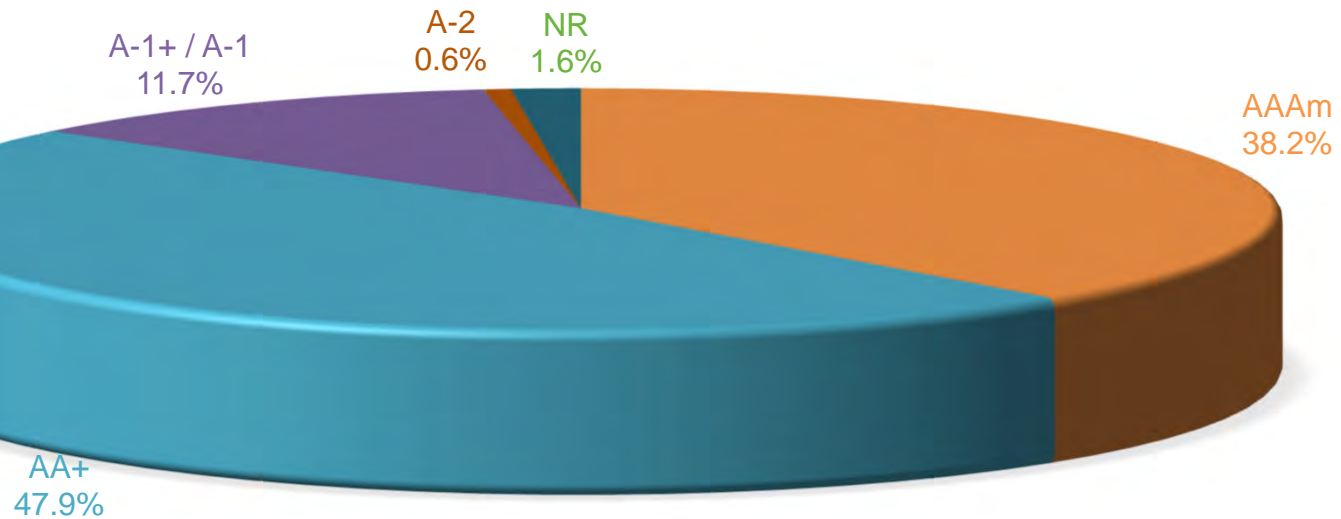
Investments – By Security Type



Security Type	September		October		November		December	
	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation
Commercial Paper	110,547,317	11.0%	141,262,374	13.5%	161,369,414	15.0%	104,960,206	9.7%
Federal Agencies	188,918,038	18.8%	184,110,405	17.6%	183,779,232	17.1%	183,805,199	16.9%
U.S. Treasuries	385,597,171	38.5%	365,283,934	34.9%	387,250,385	36.0%	336,598,575	31.0%
Cash / MMF / LGIP	317,660,352	31.7%	357,056,935	34.1%	343,398,739	31.9%	462,071,256	42.5%
Total	1,002,722,877	100.0%	1,047,713,647	100.0%	1,075,797,770	100.0%	1,087,435,236	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.

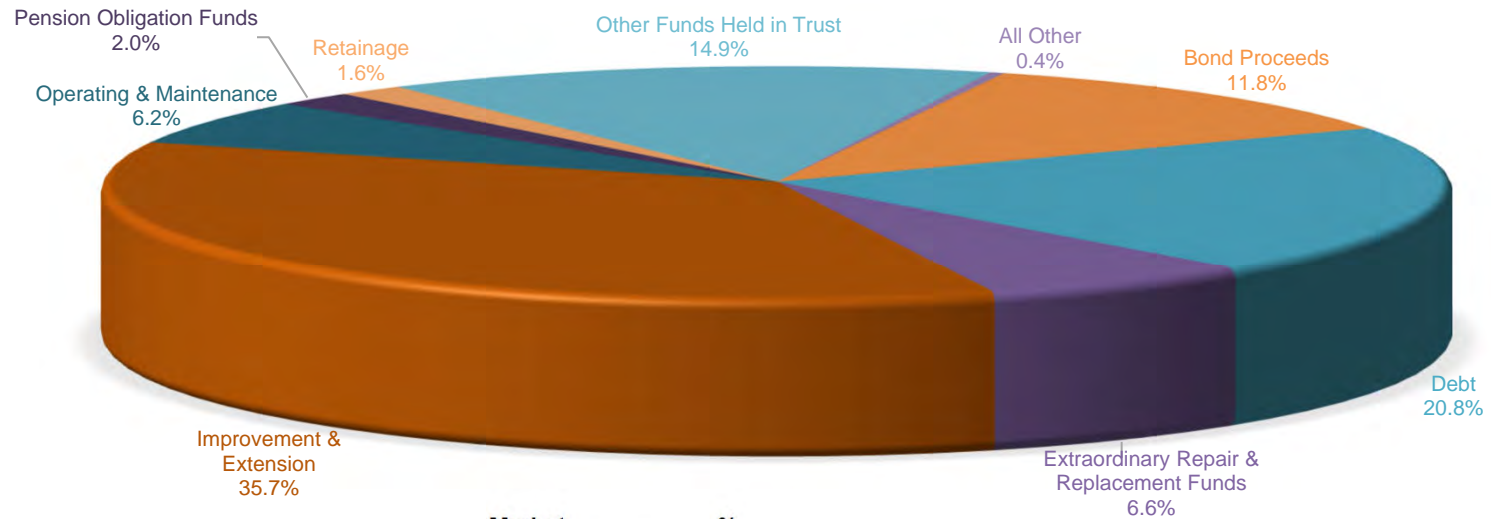
Investments – By Credit Quality



Credit Quality	Market Value	Asset Allocation
Ratings		
AAAm	415,655,162	38.2%
AA+	520,403,774	47.9%
A-1 + / A-1	126,702,145	11.7%
A-2	6,967,049	0.6%
NR	17,707,106	1.6%
Totals	1,087,435,236	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.

Investments – By Account Purpose



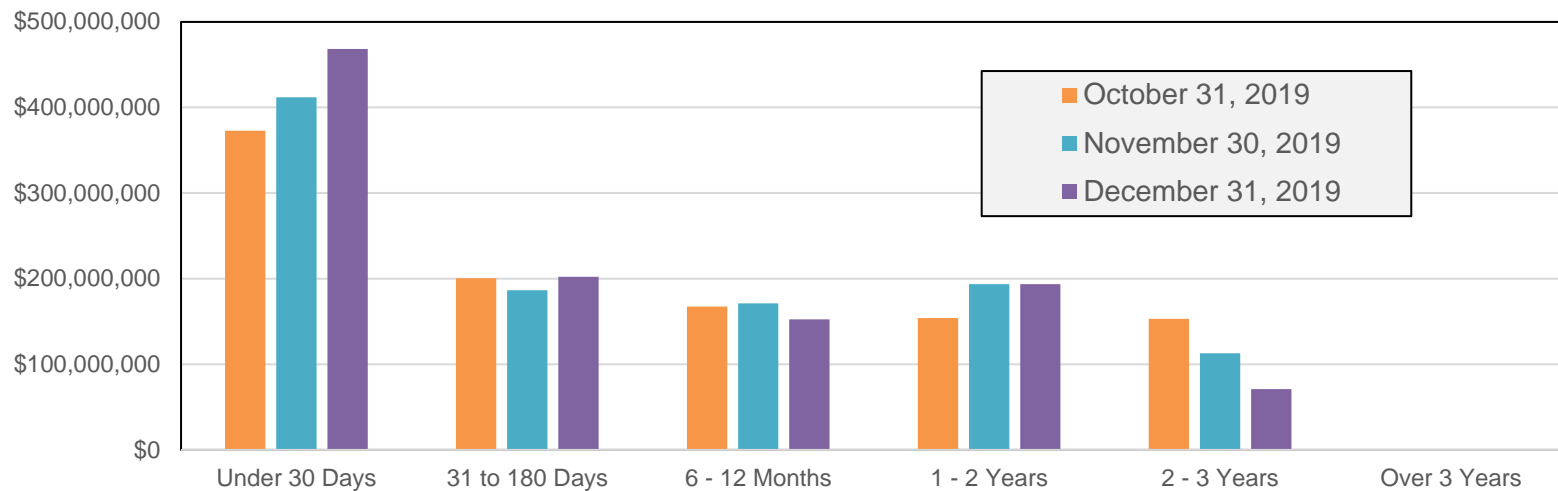
Account Purpose	Market Value	% Allocation
Bond Proceeds	\$ 128,518,871	11.8%
Debt	\$ 226,242,248	20.8%
Extraordinary Repair & Replacement Funds	\$ 71,997,279	6.6%
Improvement & Extension	\$ 388,440,860	35.7%
Operating & Maintenance	\$ 67,518,426	6.2%
Pension Obligation Funds	\$ 21,301,761	2.0%
Retainage	\$ 17,707,106	1.6%
Other Funds Held in Trust	\$ 161,901,616	14.9%
All Other	\$ 3,807,070	0.4%
Total	\$ 1,087,435,236	100.0%

Other Funds Held in Trust	Market Value	% Allocation
Budget Stabilization Funds	\$ 7,593,814	4.7%
Receiving Funds	\$ 145,056,839	89.6%
WRAP Funds	\$ 9,250,963	5.7%
Total	\$ 161,901,616	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019. "All Other" funds includes the Flint Security Deposit account which is held on behalf of the City of Flint and do not belong to GLWA.

Investments – By Maturity

Maturity Distribution	October 31, 2019	%	November 30, 2019	%	December 31, 2019	%
Under 30 Days	\$ 372,835,524	35.6%	\$ 411,900,823	38.3%	\$ 468,240,951	43.1%
31 to 180 Days	200,567,894	19.1%	186,415,593	17.3%	202,255,615	18.6%
6 - 12 Months	167,412,356	16.0%	171,144,940	15.9%	152,393,510	14.0%
1 - 2 Years	153,894,486	14.7%	193,548,467	18.0%	193,602,469	17.8%
2 - 3 Years	153,003,387	14.6%	112,787,947	10.5%	70,942,690	6.5%
Over 3 Years	-	0.0%	-	0.0%	-	0.0%
Totals	\$ 1,047,713,647	100.0%	\$ 1,075,797,770	100.0%	\$ 1,087,435,236	100.0%



In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.

Investment Accounts – Yield at Cost & Market

	As of December 31, 2019		As of September 30, 2019	
	YTM @ Cost	YTM @ Market	YTM @ Cost	YTM @ Market
Bank Deposits				
Comerica	0.18%	0.18%	0.18%	0.18%
First Independence	0.05%	0.05%	0.05%	0.05%
Flint Deposit Account	0.80%	0.80%	1.08%	1.08%
JP Morgan Chase	0.80%	0.80%	1.10%	1.10%
Sub-Total Bank Deposits	0.42%	0.42%	0.43%	0.43%
Money Market Funds / LGIPs				
GoMIC	1.75%	1.75%	2.15%	2.15%
U.S. Bank - First American MMF	1.48%	1.48%	1.79%	1.79%
JP Morgan Securities - Blackrock MMF	1.52%	1.52%	1.86%	1.86%
Sub-Total MMF / LGIPs	1.55%	1.55%	1.89%	1.89%
Investment Portfolios				
Sewage SR Debt Serv 5403	1.83%	1.84%	2.07%	2.00%
Sewage SR Res 5400	1.69%	1.61%	1.69%	1.73%
Sew 2nd Debt Serv 5403	1.85%	1.79%	2.07%	2.02%
Sewage 2nd Res 5481	1.74%	1.60%	1.74%	1.69%
Sew SRF Debt Serv 5410	1.88%	1.84%	2.01%	1.98%
Sewage ER & R	2.47%	1.63%	2.47%	1.78%
Sewer Improvement & Extension	2.10%	1.63%	2.15%	1.76%
Sewer Pension Obligation	1.75%	1.60%	1.91%	1.89%
Sewer Wrap Fund	1.91%	1.78%	2.19%	2.03%
Sewer Budget Stabilization Fund	2.53%	1.63%	2.53%	1.79%
Sewer Bond Fund	2.06%	1.84%	2.25%	2.05%
Sewer O&M Pension Sub Account	2.00%	1.58%	2.00%	1.87%
Water SR Debt Ser 5503	1.83%	1.83%	2.08%	2.01%
Water SR Reserve 5500	2.19%	1.61%	2.19%	1.70%
Water 2nd Debt Serv 5503	1.83%	1.83%	2.05%	2.00%
Water 2nd Res 5581	1.84%	1.61%	1.84%	1.69%
Water SRF Debt Serv 5575	1.94%	1.85%	2.00%	1.96%
Water ER & R	2.44%	1.62%	2.45%	1.77%
Water Improvement & Extension	2.30%	1.63%	2.35%	1.78%
Water Pension Obligation	1.75%	1.60%	1.90%	1.88%
Water Wrap Fund	1.86%	1.78%	2.11%	2.04%
Water Budget Stabilization Fund	2.53%	1.63%	2.53%	1.79%
Water Bond Fund	2.42%	1.66%	2.33%	1.96%
Water O&M Pension Sub Account	2.00%	1.58%	2.00%	1.87%
Sub-Total Investment Portfolios	2.16%	1.66%	2.23%	1.83%
Grand Total	1.85%	1.56%	2.08%	1.81%

The accounts at Comerica Bank get an earnings credit to offset bank fees. The earnings in the accounts at First Independence Bank is credited to the contractors and not the Authority. The funds in the Flint Security Deposit account are held on behalf of the City of Flint and the earnings do not belong to GLWA. YTM @ Cost is the expected return, based on the original cost, the annual interest receipts, maturity value and the time period from purchase date to maturity, stated as a percentage, on an annualized basis. YTM @ Market is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Demonstration of Yield to Maturity vs. Duration

- The comparison agencies included in the list below were selected based on type and/or other non-performance based criteria to show a broad range of water entities/utilities. This peer group list does not represent an endorsement of any of the public agencies or their services. The types of funds (e.g., bond proceeds, debt service, etc.) and duration of the overall portfolios listed below as well as the various differences in permitted investments and allowable credit capacity in state statutes (i.e., the ability or non-ability to invest in long-term corporate credit) will have a direct impact on the corresponding yields at market.
- The overall yield of GLWA's aggregate portfolio compares somewhat favorably to those of other short-term market indices (i.e., the S&P LGIP index and the 3-month U.S. Treasury index), despite the inverted yield curve environment.
- GLWA does not have a potential for a longer duration portfolio when compared to other similar water entities/utilities as the Authority's covenants limits and restricts its ability in managing assets to a longer-term strategy.

As of December 31, 2019

	Market Value	YTM @ Market	Effective Duration	Weighted Average Maturity
GLWA				
Great Lakes Water Authority	\$1,087,435,236	1.56%	0.57 Years	214 Days
Short/Intermediate-Term Indices				
S&P Rated Government Investment Pool Index		1.55%	0.08 Years	30 Days
BoA / ML 3-Month Treasury Index		1.51%	0.15 Years	90 Days
BoA / ML 6-Month Treasury Index		1.56%	0.40 Years	180 Days
BoA / ML 1-Year Treasury Index		1.65%	0.90 Years	365 Days
BoA / ML 1-3 Year Treasury Index		1.60%	1.80 Years	657 Days
BoA / ML 1-5 Year Treasury Index		1.62%	2.55 Years	931 Days
Peer Analysis (Water Entities / Utilities)				
District of Columbia Water & Sewer Authority, DC	\$367,339,823	1.70%	0.94 Years	354 Days
DuPage Water Commission, IL	\$144,171,619	1.75%	2.29 Years	1,228 Days
Fairfax County Water Authority, VA	\$179,407,562	1.66%	1.92 Years	730 Days
Metro Wastewater Reclamation District, CO	\$187,871,236	2.08%	1.75 Years	839 Days
Metropolitan Water District of Southern California, CA	\$648,443,098	1.90%	0.56 Years	238 Days
Philadelphia Water Department, PA	\$207,380,415	1.73%	0.95 Years	356 Days
San Bernardino Valley Municipal Water District, CA	\$358,027,719	1.72%	1.78 Years	673 Days
Tohopekaliga Water Authority, FL	\$151,755,008	1.80%	1.85 Years	976 Days
Truckee Meadows Water Authority, NV	\$111,733,256	1.65%	1.94 Years	738 Days

The BoA / ML indexes are unmanaged indexes tracking on-the-run Treasuries. These indexes are produced and maintained by Bank of America / Merrill Lynch & Co. Yield to maturity is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Monthly Investment Income (Book Value)

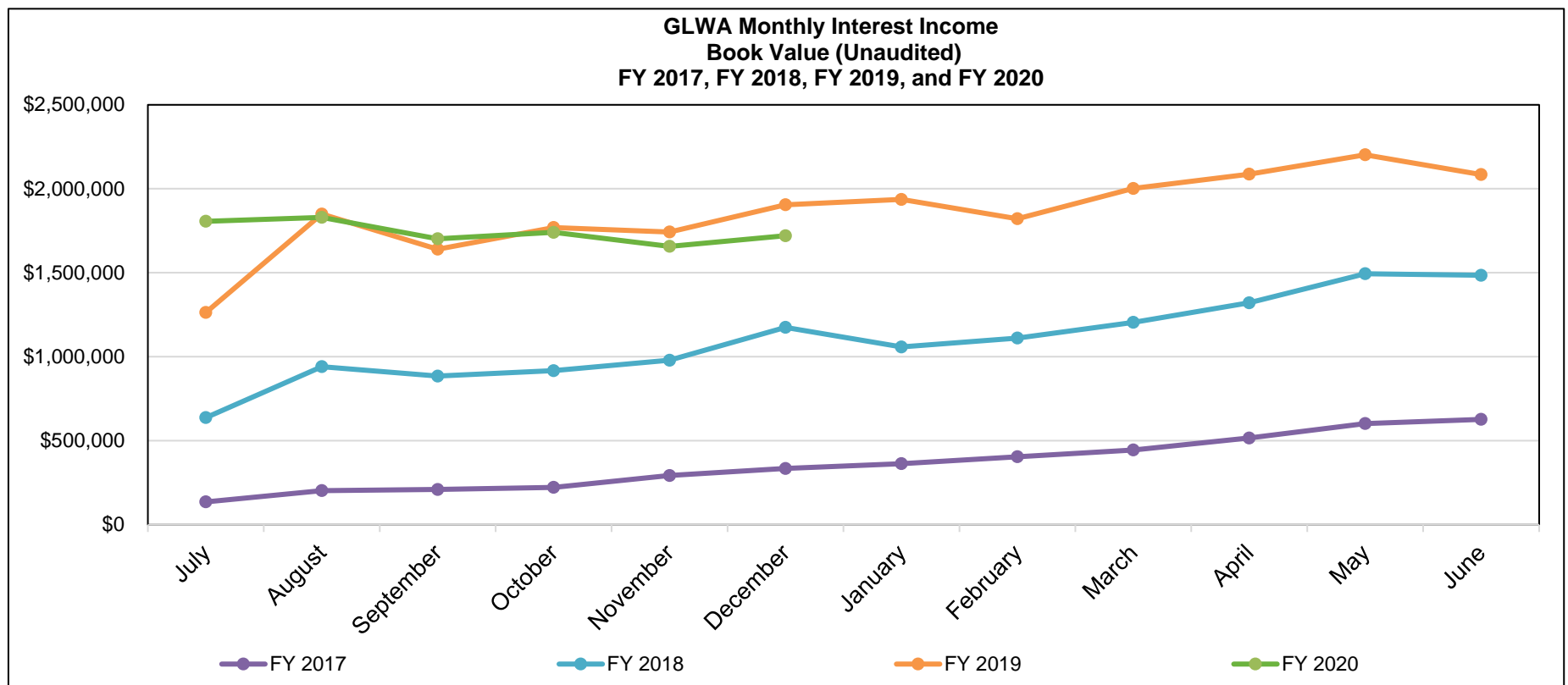
FY 2020 INVESTMENT INCOME BY MONTH (Unaudited)

Month	Interest Earned During Period	Realized Gain / Loss	Investment Income
July 2019	\$1,763,209.65	\$43,136.83	\$1,806,346.48
August 2019	\$1,829,826.44	\$0.00	\$1,829,826.44
September 2019	\$1,700,961.33	\$1,005.57	\$1,701,966.90
October 2019	\$1,740,610.53	\$0.00	\$1,740,610.53
November 2019	\$1,656,964.78	\$0.00	\$1,656,964.78
December 2019	\$1,720,392.03	\$0.00	\$1,720,392.03
<u>FY 2020 Y-T-D</u>	<u>\$10,411,964.76</u>	<u>\$44,142.40</u>	<u>\$10,456,107.16</u>

These figures are based upon actual interest earned and posted to the Authority's various accounts via book value and does not include any earnings credit rate tied to the Authority's bank deposits.

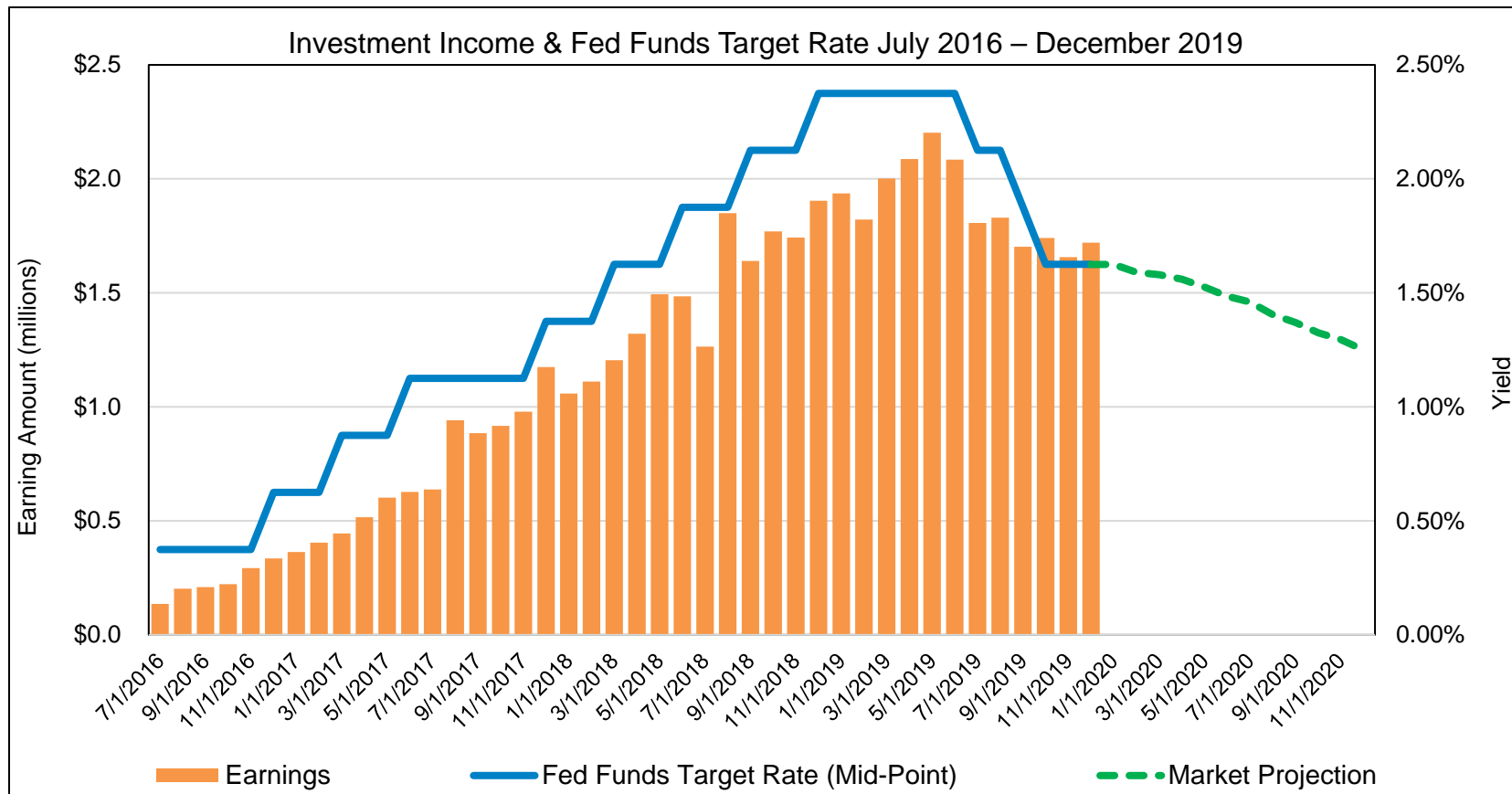
Year-Over-Year Investment Income

- GLWA has earned \$10,456,107 in investment income for fiscal year 2020 on a book value basis compared to \$10,169,274 for the first six months of fiscal year 2019.
- Projected investment income for fiscal year 2020 is \$17.4 million as the market is pricing in expectations for more projected interest rate cuts by the Fed during fiscal year 2020.



Monthly Investment Income Compared to Fed Funds Rate

- As a result of the short-term duration of GLWA's portfolio, it is heavily impacted by Fed Funds changes. The chart below illustrates that GLWA's investment income has consistently followed the trend of the Fed Funds target rate.
- The current market environment is expecting at least one cut in the Fed Funds rate for 2020 and possibly more into 2021.
- Based on the historical trend, another cut in the Fed Funds rate could translate into lower interest earnings for GLWA.



Appendix I: Portfolio Holdings

Portfolio Holdings As of December 31, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Short-Term Bank Deposits / MMF / LGIP									
COMERICA BANK		\$ 6,967,049	1/1/2020	12/31/2019	0.18%	\$ 6,967,049	1	\$ -	\$ 6,967,049
FIRST INDEPENDENCE BANK		17,707,106	1/1/2020	12/31/2019	0.05%	17,707,106	1	-	17,707,106
FLINT DEPOSIT ACCOUNT		3,807,070	1/1/2020	12/31/2019	0.80%	3,807,070	1	-	3,807,070
JP MORGAN CHASE		17,934,869	1/1/2020	12/31/2019	0.80%	17,934,869	1	-	17,934,869
GovMIC		95,088,997	1/1/2020	12/31/2019	1.75%	95,088,997	1	-	95,088,997
U.S. BANK - FIRST AMERICAN MMF		274,955,438	1/1/2020	12/31/2019	1.48%	274,955,438	1	-	274,955,438
JP MORGAN SECURITIES - BLACKROCK MMF		45,610,727	1/1/2020	12/31/2019	1.52%	45,610,727	1	-	45,610,727

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.

Portfolio Holdings As of December 31, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Commercial Paper									
Toyota Motor Credit 0 1/2/2020	89233GA22-2	\$ 4,150,000	1/2/2020	9/16/2019	2.05%	\$ 4,124,602	2	\$ -	\$ 4,149,610
Toyota Motor Credit 0 1/2/2020	89233GA22-1	1,005,000	1/2/2020	9/6/2019	1.98%	998,510	2	-	1,005,000
Credit Agricole NY 0 1/2/2020	22533TA22	1,000,000	1/2/2020	8/8/2019	2.04%	991,752	2	-	1,000,000
Toyota Motor Credit 0 2/3/2020	89233GB39	1,005,000	2/3/2020	11/20/2019	1.86%	1,001,127	34	-	1,003,503
Toyota Motor Credit 0 2/3/2020	89233GB39	1,010,000	2/3/2020	9/6/2019	1.97%	1,001,794	34	-	1,008,495
Toyota Motor Credit 0 3/2/2020	89233GC20	3,800,000	3/2/2020	9/16/2019	2.07%	3,763,647	62	-	3,787,878
MUFG Bank NY 0 3/2/2020	62479LC29	165,000	3/2/2020	12/16/2019	1.86%	164,347	62	-	164,538
MUFG Bank NY 0 3/2/2020	62479LC29	568,000	3/2/2020	10/10/2019	1.95%	563,615	62	-	566,410
MUFG Bank NY 0 3/2/2020	62479LC29	425,000	3/2/2020	12/16/2019	1.86%	423,318	62	-	423,810
American Honda Finance 0 3/4/2020	02665JC40	525,000	3/4/2020	11/20/2019	1.66%	522,473	64	-	523,425
American Honda Finance 0 3/4/2020	02665JC40	250,000	3/4/2020	11/20/2019	1.66%	248,797	64	-	249,250
Toyota Motor Credit 0 3/13/2020	89233GCD6	410,000	3/13/2020	7/11/2019	2.21%	403,892	73	-	408,594
Toyota Motor Credit 0 3/13/2020	89233GCD6	665,000	3/13/2020	7/11/2019	2.21%	655,094	73	-	662,719
Swedbank 0 3/16/2020	87019RCG9	2,500,000	3/16/2020	8/29/2019	2.08%	2,471,389	76	-	2,490,283
Swedbank 0 3/16/2020	87019RCG9	2,100,000	3/16/2020	8/29/2019	2.08%	2,075,967	76	-	2,091,837
Cooperative Rabobank 0 3/18/2020	21687ACJ0	3,750,000	3/18/2020	9/18/2019	2.04%	3,711,704	78	-	3,735,360
MUFG Bank NY 0 3/20/2020	62479LCL7	209,000	3/20/2020	10/8/2019	1.98%	207,134	80	-	208,212
MUFG Bank NY 0 3/20/2020	62479LCL7	215,000	3/20/2020	11/13/2019	1.91%	213,548	80	-	214,189
MUFG Bank NY 0 3/20/2020	62479LCL7	231,000	3/20/2020	12/6/2019	1.88%	229,740	80	-	230,129
Toyota Motor Credit 0 3/20/2020	89233GCL8	145,000	3/20/2020	9/9/2019	2.00%	143,461	80	-	144,453
MUFG Bank NY 0 3/20/2020	62479LCL7	1,235,000	3/20/2020	8/9/2019	2.05%	1,219,477	80	-	1,230,344
Natixis Bank NY 0 3/20/2020	63873JCL2	5,174,000	3/20/2020	10/8/2019	1.98%	5,127,802	80	-	5,154,494
Natixis Bank NY 0 3/20/2020	63873JCL2	5,140,000	3/20/2020	11/13/2019	1.87%	5,106,007	80	-	5,120,622
Toyota Motor Credit 0 3/20/2020	89233GCL8	5,072,000	3/20/2020	9/9/2019	2.00%	5,018,161	80	-	5,052,879
Credit Agricole NY 0 4/1/2020	22533TD11	1,000,000	4/1/2020	12/16/2019	1.83%	994,591	92	-	995,650
Toyota Motor Credit 0 4/1/2020	89233GD11	1,010,000	4/1/2020	11/20/2019	1.87%	1,003,060	92	-	1,005,607
Credit Agricole NY 0 5/1/2020	22533TE10	1,000,000	5/1/2020	12/16/2019	1.83%	993,074	122	-	994,100
Credit Agricole 0 6/19/2020	22533TFK7	6,897,000	6/19/2020	12/6/2019	1.81%	6,829,785	171	-	6,838,100
JPMorgan Securities 0 6/19/2020	46640PFK4	10,495,000	6/19/2020	10/8/2019	1.85%	10,358,959	171	-	10,405,373
JPMorgan Securities 0 6/19/2020	46640PFK4	4,053,000	6/19/2020	10/8/2019	1.85%	4,000,463	171	-	4,018,387
Natixis Bank NY 0 6/19/2020	63873JFK1	1,208,000	6/19/2020	11/13/2019	1.90%	1,194,185	171	-	1,197,684
Natixis Bank NY 0 6/19/2020	63873JFK1	398,000	6/19/2020	11/13/2019	1.90%	393,448	171	-	394,601
JPMorgan Securities 0 6/19/2020	46640PFK4	11,779,000	6/19/2020	10/8/2019	1.85%	11,626,315	171	-	11,678,407
JPMorgan Securities 0 6/19/2020	46640PFK4	3,886,000	6/19/2020	10/8/2019	1.85%	3,835,628	171	-	3,852,814
Natixis Bank NY 0 6/19/2020	63873JFK1	3,921,000	6/19/2020	11/13/2019	1.90%	3,876,157	171	-	3,887,515
Cooperatieve Rabobank 0 7/1/2020	21687AG15	4,017,000	7/1/2020	12/6/2019	1.79%	3,975,919	183	-	3,980,244
Cooperatieve Rabobank 0 7/1/2020	21687AG15	3,550,000	7/1/2020	12/6/2019	1.79%	3,513,695	183	-	3,517,518
Cooperatieve Rabobank 0 7/1/2020	21687AG15	11,675,000	7/1/2020	12/6/2019	1.79%	11,555,604	183	-	11,568,174

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.



Portfolio Holdings As of December 31, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Federal Agencies									
FHLB 2.125 2/11/2020	3130ADN32	\$ 3,750,000	2/11/2020	6/28/2018	2.52%	\$ 3,726,750	42	\$ 30,990	\$ 3,751,976
FHLMC 2.5 4/23/2020	3137EAEM7	3,750,000	4/23/2020	6/28/2018	2.56%	3,746,288	114	17,708	3,759,998
FHLB 2.625 5/28/2020	3130AECJ7	3,750,000	5/28/2020	6/28/2018	2.57%	3,753,825	149	9,023	3,764,655
FHLMC 2.375 2/16/2021	3137EAEL9	3,500,000	2/16/2021	8/8/2018	2.79%	3,465,210	413	31,172	3,529,995
FHLMC 2.375 2/16/2021	3137EAEL9	20,000,000	2/16/2021	8/8/2018	2.79%	19,801,200	413	178,125	20,171,400
FHLMC 2.375 2/16/2021	3137EAEL9	250,000	2/16/2021	8/9/2018	2.78%	247,563	413	2,227	252,143
FHLMC 2.375 2/16/2021	3137EAEL9	685,000	2/16/2021	8/9/2018	2.78%	678,321	413	6,101	690,870
FNMA 2.5 4/13/2021	3135G0U27	3,500,000	4/13/2021	8/8/2018	2.82%	3,471,685	469	18,958	3,540,810
FNMA 2.5 4/13/2021	3135G0U27	20,000,000	4/13/2021	8/8/2018	2.82%	19,838,200	469	108,333	20,233,200
FNMA 2.5 4/13/2021	3135G0U27	250,000	4/13/2021	8/9/2018	2.81%	247,985	469	1,354	252,915
FNMA 2.5 4/13/2021	3135G0U27	3,400,000	4/13/2021	8/8/2018	2.81%	3,372,698	469	18,417	3,439,644
FNMA 2.5 4/13/2021	3135G0U27	685,000	4/13/2021	8/9/2018	2.81%	679,479	469	3,710	692,987
FNMA 2.5 4/13/2021	3135G0U27	5,750,000	4/13/2021	8/8/2018	2.81%	5,703,828	469	31,146	5,817,045
FHLB 2.25 6/11/2021	3130A1W95	10,000,000	6/11/2021	7/11/2019	1.94%	10,058,200	528	12,500	10,087,700
FHLB 2.25 6/11/2021	3130A1W95	25,000,000	6/11/2021	7/11/2019	1.94%	25,145,500	528	31,250	25,219,250
FHLB 1.875 7/7/2021	3130AGLD5	3,715,000	7/7/2021	6/10/2019	1.96%	3,708,982	554	33,667	3,730,937
FHLB 1.875 7/7/2021	3130AGLD5	3,910,000	7/7/2021	6/10/2019	1.96%	3,903,666	554	35,434	3,926,774
FHLMC 2.375 1/13/2022	3137EADB2	10,000,000	1/13/2022	7/11/2019	1.89%	10,118,700	744	110,833	10,154,200
FHLMC 2.375 1/13/2022	3137EADB2	25,000,000	1/13/2022	7/11/2019	1.89%	25,296,750	744	277,083	25,385,500
FHLB 2.125 6/10/2022	313379Q69	10,000,000	6/10/2022	7/11/2019	1.92%	10,059,200	892	12,396	10,115,200
FHLB 2.125 6/10/2022	313379Q69	25,000,000	6/10/2022	7/11/2019	1.92%	25,148,000	892	30,990	25,288,000

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.

Portfolio Holdings As of December 31, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 2 1/31/2020	9128283S7	\$ 3,750,000	1/31/2020	6/28/2018	2.46%	\$ 3,723,047	31	\$ 31,182	\$ 3,750,994
T-Note 2.25 2/29/2020	9128283Y4	3,500,000	2/29/2020	8/8/2018	2.63%	3,479,902	60	26,394	3,503,220
T-Note 2.25 2/29/2020	9128283Y4	20,000,000	2/29/2020	8/8/2018	2.63%	19,885,156	60	150,824	20,018,400
T-Note 2.25 2/29/2020	9128283Y4	250,000	2/29/2020	8/9/2018	2.62%	248,594	60	1,885	250,230
T-Note 2.25 2/29/2020	9128283Y4	3,400,000	2/29/2020	8/8/2018	2.63%	3,380,477	60	25,640	3,403,128
T-Note 2.25 2/29/2020	9128283Y4	685,000	2/29/2020	8/9/2018	2.62%	681,147	60	5,166	685,630
T-Note 2.25 2/29/2020	9128283Y4	5,750,000	2/29/2020	8/8/2018	2.63%	5,716,982	60	43,362	5,755,290
T-Note 2.25 3/31/2020	9128284C1	3,725,000	3/31/2020	6/28/2018	2.49%	3,709,431	91	21,068	3,730,237
T-Note 2.375 4/30/2020	9128284J6	3,500,000	4/30/2020	4/30/2019	2.40%	3,499,043	121	13,930	3,508,470
T-Note 2.375 4/30/2020	9128284J6	15,000,000	4/30/2020	4/30/2019	2.40%	14,996,484	121	59,701	15,036,300
T-Note 2.5 5/31/2020	9128284Q0	3,500,000	5/31/2020	8/8/2018	2.66%	3,489,883	152	7,411	3,512,005
T-Note 2.5 5/31/2020	9128284Q0	4,750,000	5/31/2020	7/11/2019	2.02%	4,770,039	152	10,058	4,766,293
T-Note 2.5 5/31/2020	9128284Q0	20,000,000	5/31/2020	8/8/2018	2.66%	19,942,188	152	42,350	20,068,600
T-Note 2.5 5/31/2020	9128284Q0	250,000	5/31/2020	8/9/2018	2.66%	249,297	152	529	250,858
T-Note 2.5 5/31/2020	9128284Q0	3,400,000	5/31/2020	8/8/2018	2.66%	3,390,172	152	7,199	3,411,662
T-Note 2.5 5/31/2020	9128284Q0	685,000	5/31/2020	8/9/2018	2.66%	683,073	152	1,450	687,350
T-Note 2.5 5/31/2020	9128284Q0	5,750,000	5/31/2020	8/8/2018	2.66%	5,733,379	152	12,176	5,769,723
T-Note 1.5 6/15/2020	912828XU9-1	635,000	6/15/2020	7/10/2019	2.00%	632,098	167	416	634,776
T-Note 1.5 6/15/2020	912828XU9-2	355,000	6/15/2020	7/10/2019	1.99%	353,391	167	233	354,876
T-Note 1.5 6/15/2020	912828XU9-2	1,784,000	6/15/2020	9/6/2019	1.82%	1,779,679	167	1,170	1,783,376
T-Note 1.5 6/15/2020	912828XU9-2	928,000	6/15/2020	10/10/2019	1.66%	926,985	167	609	927,675
T-Note 1.5 6/15/2020	912828XU9-2	887,000	6/15/2020	11/20/2019	1.58%	886,619	167	582	886,690
T-Note 1.5 6/15/2020	912828XU9-2	922,000	6/15/2020	12/16/2019	1.59%	921,604	167	605	921,677
T-Note 1.5 6/15/2020	912828XU9-1	1,140,000	6/15/2020	7/10/2019	2.00%	1,134,790	167	748	1,139,599
T-Note 1.5 6/15/2020	912828XU9-2	299,000	6/15/2020	7/10/2019	1.99%	297,645	167	196	298,895
T-Note 1.5 6/15/2020	912828XU9-2	2,449,000	6/15/2020	9/6/2019	1.82%	2,443,069	167	1,606	2,448,143
T-Note 1.5 6/15/2020	912828XU9-2	1,267,000	6/15/2020	10/10/2019	1.66%	1,265,614	167	831	1,266,557
T-Note 1.5 6/15/2020	912828XU9-2	1,217,000	6/15/2020	11/20/2019	1.58%	1,216,477	167	798	1,216,574
T-Note 1.5 6/15/2020	912828XU9-2	1,265,000	6/15/2020	12/16/2019	1.59%	1,264,456	167	830	1,264,557
T-Note 1.875 6/30/2020	912828VJ6-1	3,750,000	6/30/2020	6/28/2018	2.52%	3,703,271	182	-	3,754,541
T-Note 1.875 6/30/2020	912828VJ6-2	1,740,000	6/30/2020	7/3/2018	2.54%	1,717,638	182	-	1,742,105
T-Note 1.875 6/30/2020	912828VJ6-2	2,760,000	6/30/2020	10/30/2018	2.81%	2,718,061	182	-	2,763,340
T-Note 1.625 6/30/2020	912828XH8	9,705,000	6/30/2020	10/11/2017	1.61%	9,709,928	182	-	9,705,000
T-Note 1.625 6/30/2020	912828XH8	4,565,000	6/30/2020	2/27/2017	1.54%	4,578,374	182	-	4,565,000

In addition to the totals listed above, there also exists surety bonds in the amount of \$324,309,258 as of December 31, 2019.

Portfolio Holdings As of December 31, 2019

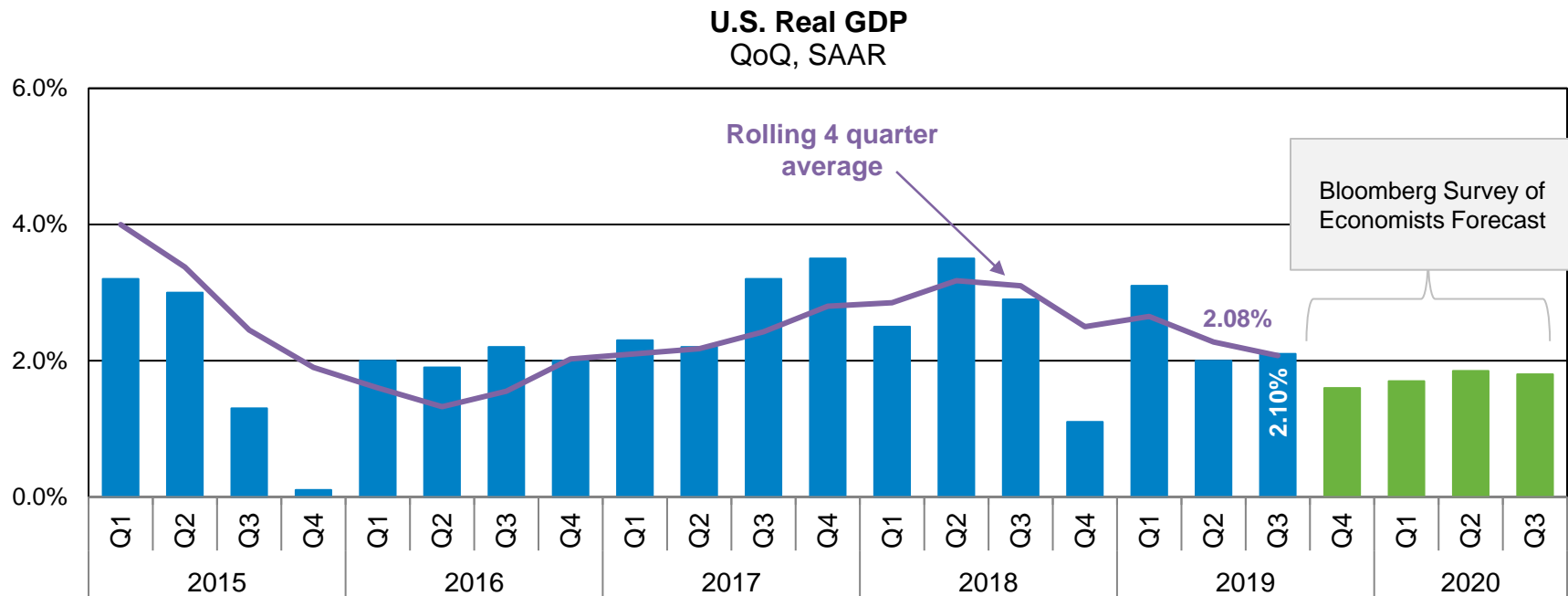
DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 1.625 6/30/2020	912828XH8	6,560,000	6/30/2020	10/11/2017	1.61%	6,563,331	182	-	6,560,000
T-Note 2.125 8/31/2020	912828VV9	3,500,000	8/31/2020	8/8/2018	2.69%	3,460,762	244	24,928	3,510,675
T-Note 2.125 8/31/2020	912828VV9	5,000,000	8/31/2020	7/11/2019	1.95%	5,009,570	244	35,611	5,015,250
T-Note 2.125 8/31/2020	912828VV9	20,000,000	8/31/2020	8/8/2018	2.69%	19,775,781	244	142,445	20,061,000
T-Note 2.125 8/31/2020	912828VV9	250,000	8/31/2020	8/9/2018	2.69%	247,188	244	1,781	250,763
T-Note 2.125 8/31/2020	912828VV9	3,400,000	8/31/2020	8/8/2018	2.69%	3,361,883	244	24,216	3,410,370
T-Note 2.125 8/31/2020	912828VV9	685,000	8/31/2020	8/9/2018	2.69%	677,294	244	4,879	687,089
T-Note 2.125 8/31/2020	912828VV9	5,750,000	8/31/2020	8/8/2018	2.69%	5,685,537	244	40,953	5,767,538
T-Note 1.375 9/15/2020	9128282V1	5,134,000	9/15/2020	12/6/2019	1.62%	5,124,374	259	20,751	5,124,553
T-Note 1.75 10/31/2020	912828WCO	4,915,000	10/31/2020	11/20/2019	1.64%	4,919,992	305	14,414	4,919,030
T-Note 1.75 10/31/2020	912828WCO	13,595,000	10/31/2020	11/20/2019	1.64%	13,608,807	305	39,870	13,606,148
T-Note 2 11/30/2020	912828A42	3,500,000	11/30/2020	8/8/2018	2.72%	3,444,082	335	5,929	3,511,340
T-Note 2 11/30/2020	912828A42	6,100,000	11/30/2020	9/6/2019	1.74%	6,119,539	335	10,333	6,119,764
T-Note 2 11/30/2020	912828A42	20,000,000	11/30/2020	8/8/2018	2.72%	19,680,469	335	33,880	20,064,800
T-Note 2 11/30/2020	912828A42	250,000	11/30/2020	8/9/2018	2.72%	246,006	335	424	250,810
T-Note 2 11/30/2020	912828A42	3,400,000	11/30/2020	9/17/2018	2.81%	3,341,828	335	5,760	3,411,016
T-Note 2 11/30/2020	912828A42	685,000	11/30/2020	8/9/2018	2.72%	674,056	335	1,160	687,219
T-Note 2 11/30/2020	912828A42	5,750,000	11/30/2020	9/17/2018	2.81%	5,651,621	335	9,740	5,768,630
T-Note 1.875 12/15/2020	9128283L2	2,070,000	12/15/2020	7/10/2019	1.91%	2,069,030	350	1,697	2,074,533
T-Note 2.625 5/15/2021	9128284P2	245,000	5/15/2021	2/7/2019	2.49%	245,708	501	813	248,369
T-Note 2.625 5/15/2021	9128284P2	3,455,000	5/15/2021	2/7/2019	2.49%	3,464,852	501	11,461	3,502,506
T-Note 2.625 5/15/2021	9128284P2	700,000	5/15/2021	2/7/2019	2.49%	702,023	501	2,322	709,625
T-Note 2.625 5/15/2021	9128284P2	5,685,000	5/15/2021	2/7/2019	2.49%	5,701,211	501	18,859	5,763,169
T-Note 1.25 10/31/2021	912828T67	10,000,000	10/31/2021	7/11/2019	1.83%	9,870,703	670	20,948	9,939,800
T-Note 1.25 10/31/2021	912828T67	2,500,000	10/31/2021	7/11/2019	1.83%	2,467,676	670	5,237	2,484,950
T-Note 1.25 10/31/2021	912828T67	17,500,000	10/31/2021	9/6/2019	1.55%	17,388,574	670	36,659	17,394,650
T-Note 1.25 10/31/2021	912828T67	270,000	10/31/2021	9/6/2019	1.55%	268,313	670	566	268,375
T-Note 1.25 10/31/2021	912828T67	3,405,000	10/31/2021	9/6/2019	1.55%	3,383,586	670	7,133	3,384,502
T-Note 1.25 10/31/2021	912828T67	730,000	10/31/2021	9/6/2019	1.55%	725,438	670	1,529	725,605
T-Note 1.25 10/31/2021	912828T67	5,765,000	10/31/2021	9/6/2019	1.55%	5,728,744	670	12,076	5,730,295
T-Note 2.625 12/15/2021	9128285R7	2,700,000	12/15/2021	7/10/2019	1.80%	2,752,945	715	3,098	2,753,568
T-Note 2.625 12/15/2021	9128285R7	7,100,000	12/15/2021	7/10/2019	1.80%	7,239,227	715	8,148	7,240,864
T-Note 2.625 12/15/2021	9128285R7	20,350,000	12/15/2021	7/10/2019	1.80%	20,749,051	715	23,352	20,753,744
T-Note 2.625 12/15/2021	9128285R7	10,900,000	12/15/2021	7/10/2019	1.80%	11,113,742	715	12,508	11,116,256

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Appendix II: Economic Update

Economic Growth Moderate in Third Quarter

- U.S. economic activity experienced moderate growth during the third quarter of 2019
 - The final estimate of U.S. GDP growth for the third quarter held steady at 2.1%, up slightly from the 2.0% pace in the second quarter
 - Upwards revisions to personal spending and fixed investments were offset by a downward revision to inventory investment in the third quarter
- Growth is still projected to steadily decline into 2020, highlighting positive but moderating growth

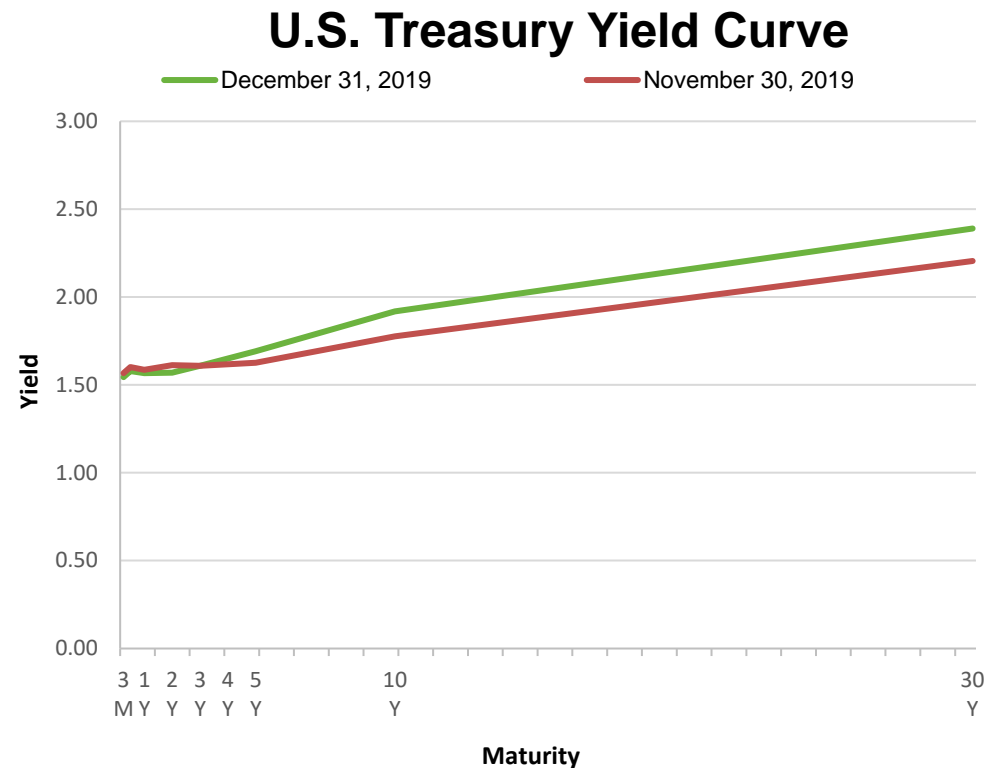


Source: Bloomberg, as of December 31, 2019. SAAR is seasonally adjusted annualized rate. Purple denotes rolling four-quarter averages.

The U.S. Treasury Yield Curve Normalizes

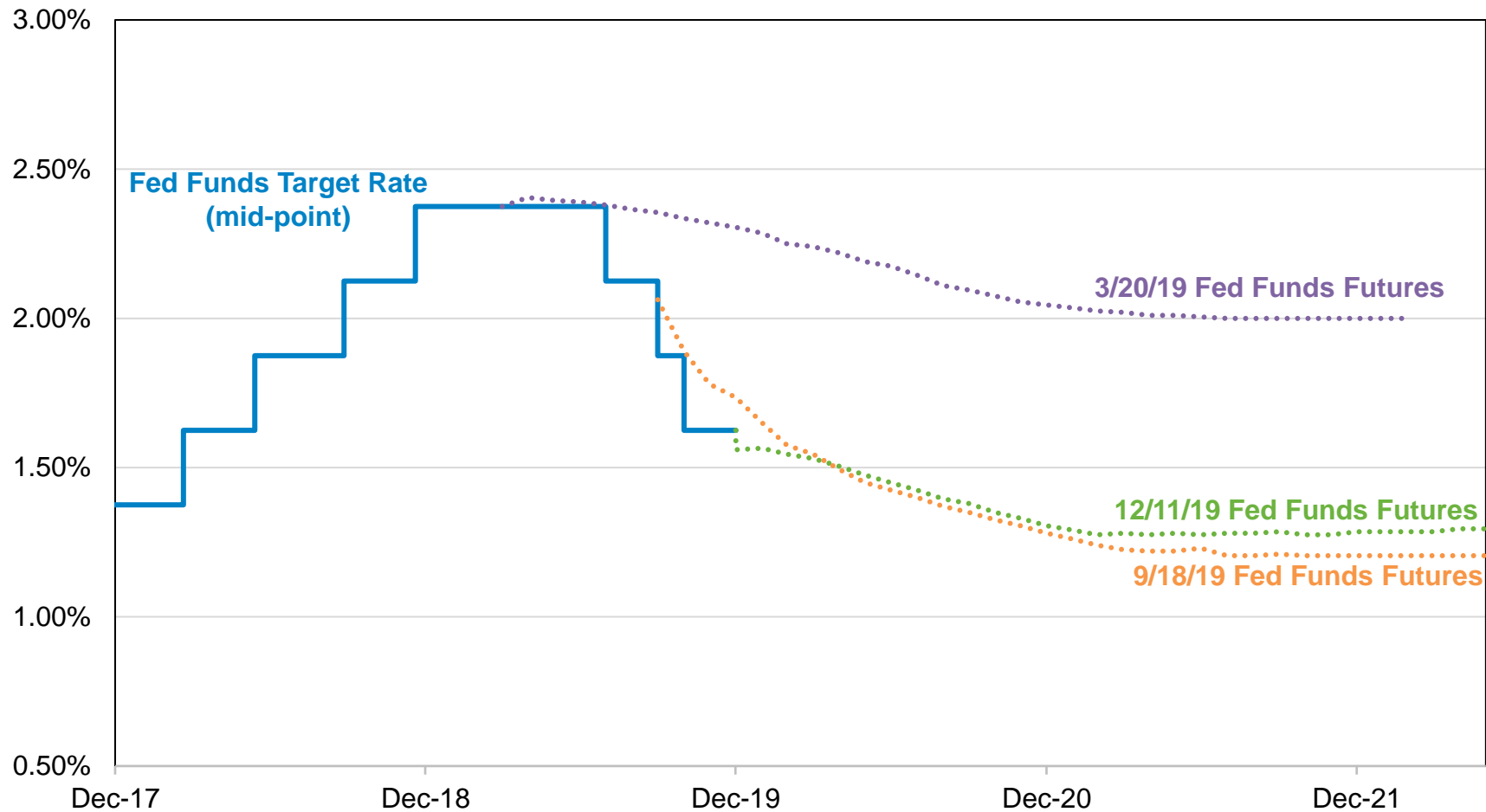
- U.S. Treasury rates rose modestly on the longer end of the curve, while shorter-term rates fell slightly to bring about a normalized yield curve
- As of December 31, 2019, the yield curve normalized to have longer-duration securities provide additional income of those of shorter-duration U.S. Treasuries

	<u>11/30/2019</u>	<u>12/31/2019</u>	<u>Change</u>
3 month	1.57%	1.54%	-0.03%
6 month	1.60%	1.58%	-0.02%
1 year	1.59%	1.57%	-0.02%
2 year	1.61%	1.57%	-0.04%
3 year	1.61%	1.61%	0.00%
5 year	1.63%	1.69%	0.06%
10 year	1.78%	1.92%	0.14%
30 year	2.21%	2.39%	0.18%



Source: Bloomberg, as of December 31, 2019.

The Fed Is On Hold After Cutting Rates For a Third Time



Source: Federal Reserve and Bloomberg. Fed Funds futures as of Fed meeting dates of 3/20/2019 and 9/18/2019 as well as 12/11/2019.

Market Expectations Adjust to Federal Open Market Committee (FOMC) Guidance

2019 Rate Moves Priced into the Futures Market



*"The Committee will closely monitor the implications of incoming information for the economic outlook and will act as **appropriate to sustain the expansion...**"*
- June 2019

*"Information received since the Federal Open Market Committee met in July indicates that the **labor market remains strong and that economic activity has been rising** at a moderate rate... but **uncertainties about this outlook remain.**"*
- September 2019

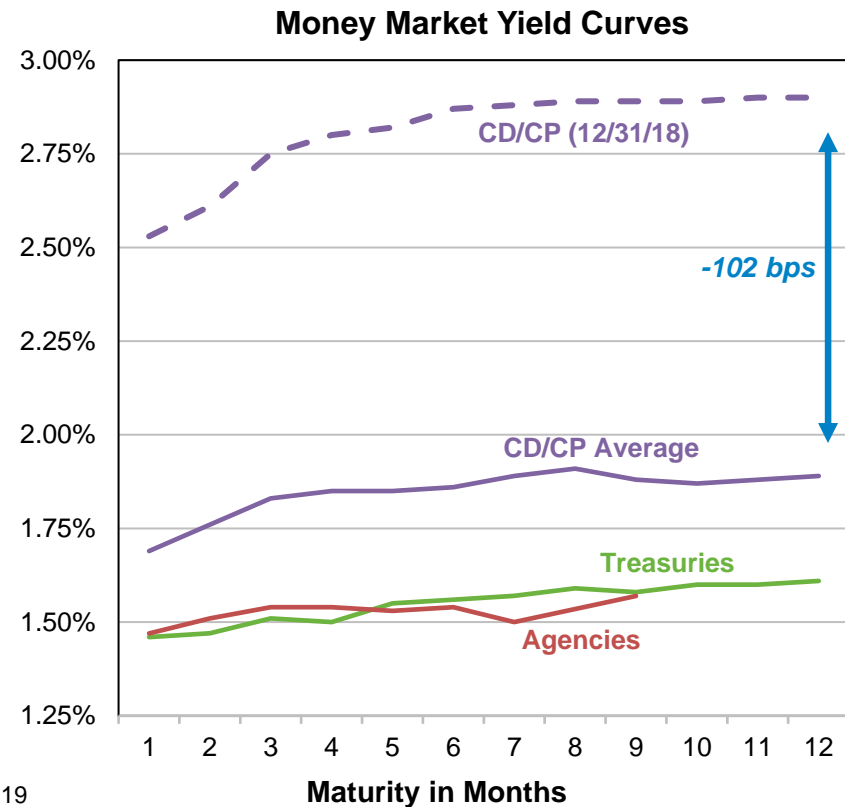
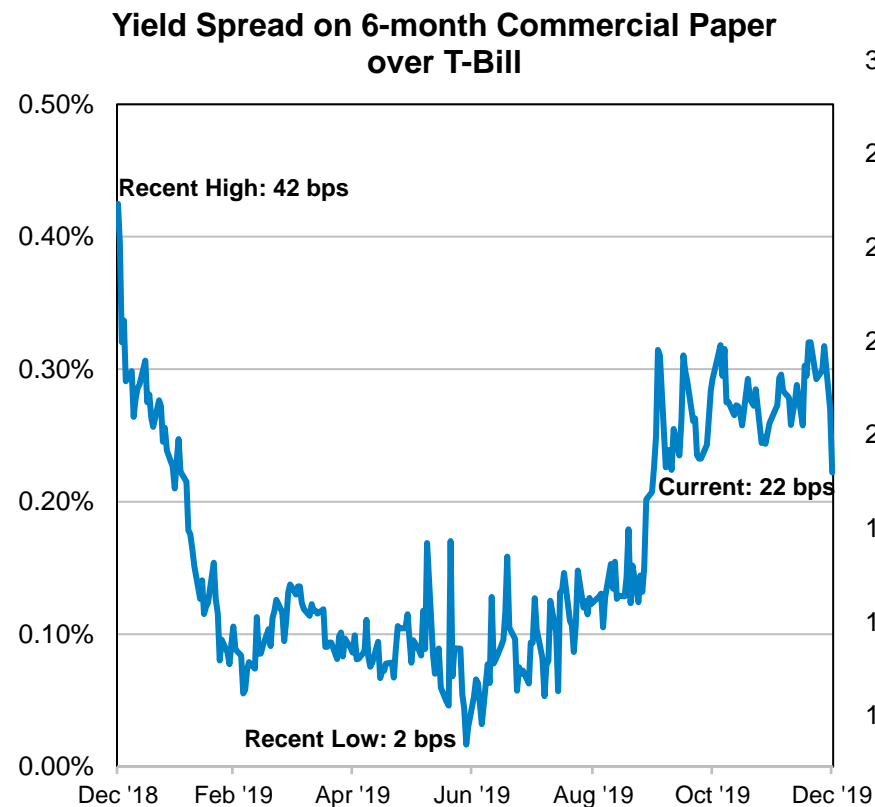
*"In light of the **implications of global developments** for the economic outlooks as well as **muted inflation pressures**, the Committee decided to **lower the target range...** The Committee will continue to monitor the implications of incoming information for the economic outlook as it **assesses the appropriate path of the target range for the Federal Funds rate.**"*
- October 2019

*"... **maintaining the current stance of policy** for a time could be helpful for **cushioning the economy** from the global developments that have been weighing on economic activity and for **returning inflation** to the Committee's symmetric objective of 2.0%."*
- December 2019

Source: Bloomberg, as of December 31, 2019.

Current Short-Term Interest Rate Environment

- In December, commercial paper and bank certificate of deposit (CP / CD) yield spreads continued to trade between 25 and 30 bps over comparable maturity U.S. Treasury Bills; towards the end of the month, spreads compressed towards the low 20's
- Treasuries continue to be relatively attractive versus Agency discount notes



Source: Bloomberg, PFMAM Trading Desk, as of 12/31/19. Not a specific recommendation. Actual yields may vary by issue.

Fixed Income Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- The U.S. economy was characterized by a strong labor market, range-bound inflation, and stable growth coupled with higher consumer confidence and increasing wealth.
 - December marked the 127th month of domestic economic expansion.

- Following the Fed’s fine-tuning “rate adjustment” cuts in July, September, and October, the market now expects a long-term pause for much of 2020.
 - A stable but still accommodative FOMC along with easing trade tensions helped un-invert the U.S. Treasury yield curve and further catapult equity markets.

- The U.S. Treasury yield curve twisted around a 3-year inflection point in the fourth quarter of 2019.
 - Shorter-term yields declined up to 0.40% as ultra-short rates reset after the three Fed rate cuts
 - On the other hand, longer-term Treasury yields rose by as much as 0.25% to 0.30% on renewed optimism regarding growth and trade.

- As a result of the yield curve twist and steepening, returns for short and intermediate-term fixed income investors benefited, while longer-term investors were negatively impacted.
 - For the calendar year, however, longer was better as every bit of extra duration was additive to performance.

Fixed Income Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- Our strategy for the fourth quarter of 2019 included the following elements:
 - We maintained broad diversification across all permitted fixed income sectors. Although most sector spread levels were on the tighter end of their recent trading history, the incremental income was nonetheless generally additive to performance in a range-bound interest rate environment in the fourth quarter of 2019.
 - We continued to de-emphasize Agencies, generally reducing allocations in favor of other sectors. Value in Federal Agency issuers remained extremely limited, largely on scarce supply. Spread levels remained near historically tight levels. In some instances, Agencies were trading at yields less than similar maturity Treasuries.
 - Short-term investors found opportunities from wider spreads on money market credit investments (commercial paper). Increased allocations to these sectors at attractive levels helped cushion the impact of a lower Fed overnight target rate.

- U.S. economic fundamentals are stable and firm at the start of the new year and our view is that the U.S. avoids a recession.
 - But, political risks in the U.S. are headed for a crescendo and international geopolitical events remain a significant source of uncertainty and risk for 2020.

- We expect the Fed to remain on hold for an extended period and rates to remain mostly range-bound in the near-term.

- Our outlook for the major investment-grade fixed-income sectors are as follows:
 - Federal Agency yield spreads remain very tight after trading in a tight range for most of 2019. We do not expect this to change. We continue to favor further reductions in Agency holdings as their benefit and upside is limited.
 - In the money market space, a positively sloped yield curve and wide spreads have created opportunities for incremental earnings potential.

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